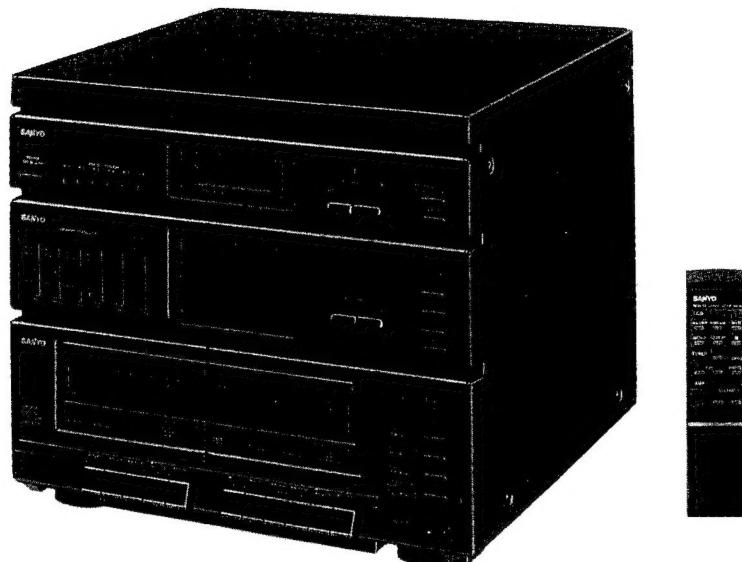


SANYO

Service Manual

Stereo Sound System

DCX49 (GENERAL)



Specifications

Tuner section
Frequency range . . . FM: 87.5 – 108 MHz
MW: 531 – 1602 kHz
(9 kHz steps)
530 – 1700 kHz
(10 kHz steps)

Cassette deck section
Recording system . AC bias, 4-track stereo
Rewind and fast
forward time. . . . Approx. 115 sec.
(C-60)
Wow and flutter . . 0.2% (WRMS)

General
Output power. . . . 200 W (Total P.M.P.O.)
Inputs. CD: 47 k ohms
(250 mV)
Outputs. SPEAKERS: 8 ohms
HEADPHONE: 8 ohms

Power
requirements . . . AC: 110 – 127/
200 – 220/
230 – 250 V
50 Hz/60 Hz

Dimensions
(W x D x H) Approx. 360 x 370
307 mm

PRODUCT CODE No.
129 318 03

RB 49 REMOTE CONTROLLER

Power
requirements . . . DC: 3V, "AA/SUM-3/
R6" battery x 2

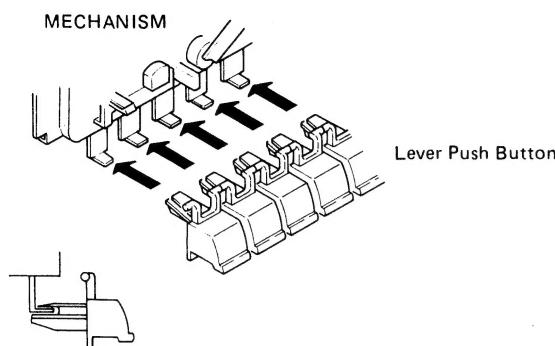
Dimensions
(W x D x H) Approx. 160 x 40
x 18 mm

Specifications subject to change without notice.

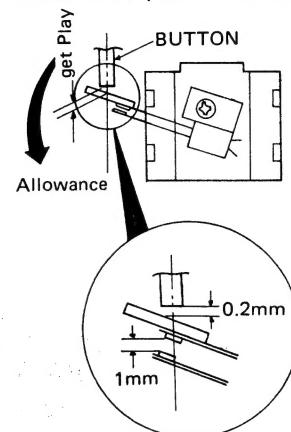
REFERENCE No. WM-580318

HOW TO ASSEMBLE THE SET

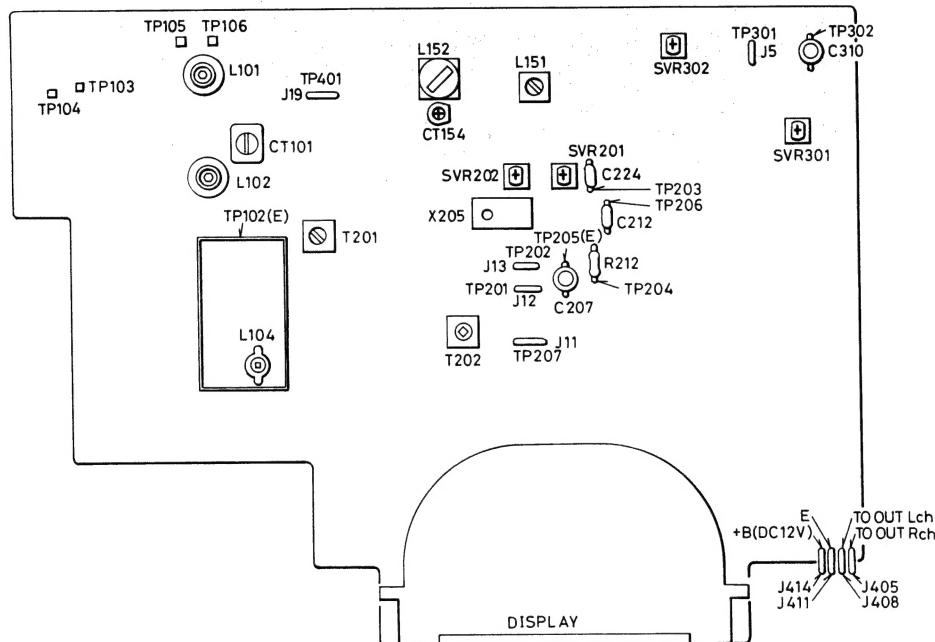
- Mechanism



CHECK NOTICE: Please install a Leaf SW as this follow.
Because to have space until switch action when push the button.



PARTS LOCATION (TUNER SECTION)



ADJUSTMENTS

NOTE:

1. Power source voltage is DC 12V.
2. Use a screw driver with plastic grip for all adjustment.
3. Signal input must be kept as low as possible to avoid overload.
4. Use an output meter of the highest possible sensitivity.
5. Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

ADJUSTMENTS

(1) FM Band

Antenna: 75 ohm open SG direct, standard modulation frequency: 1kHz, Deviation: 75 kHz (Mono)

ITEMS		FREQUENCY INDICATED POSITION	INPUT CONDITIONS		OUTPUT CONDITIONS		ADJUST- ING PARTS	STANDARDS
			MEASURING INSTRUMENTS	CONNEC- TIONS	MEASURING INSTRUMENTS	CONNEC- TIONS		
IF	V-curve	98.0 MHz	FM sweep generator (10.7 MHz non modulation)	TP103 (H) TP104 (E)	FM sweep generator	TP203 (H) TP205 (E)	T201	Max.
	S-curve					TP204 (H) TP205 (E)	T202	Symmetrical Wave Max.
Tuning Coverage	Low	87.5 MHz	—	—	Digital Voltmeter	TP401 (H) TP102 (E)	—	—
	High	108.0 MHz				L104	8.0 ± 0.05V	
Tracking	Low	90.0 MHz	FM-SG (10dB)	TP103 (H) TP104 (E)	VTVM Oscilloscope	Tuner out (L or R)	L101 L102	Max.
	High	106.0 MHz					CT101	
IF S-curve (Distortion factor)		98.0 MHz	FM-SG (66dB)	TP103 (H) TP104 (E)	Digital Voltmeter	TP201 (H) TP202 (E)	T202	0±0.05V
S.D. (Station Detector)		98.0 MHz	FM-SG (22dB)	TP103 (H) TP104 (E)	Digital Voltmeter	TP207 (H) TP205 (E)	SVR201	Less than 4V
VCO (19 kHz)		98.0 MHz	FM-SG (66 dB)	—	Counter	TP301 (H) TP302 (E)	SVR302	19kHz±50Hz
Separation		98.0 MHz	FM-SG (66dB) Stereo Modula- tor*	TP103 (H) TP104 (E)	VTVM Oscilloscope	Tuner out (L or R)	SVR301	L/R-ratio Max.

* Stereo modulator: Deviation Main (L + R) ... ±40 kHz
Pilot (19kHz) ... 6.75 kHz

(2) MW Band

MW step switch to select "10K" position. (GENERAL only) Antenna: IRE Loop antenna, Standard modulation: 1 kHz 30%

ITEMS		FREQUENCY INDICATED POSITION	INPUT CONDITIONS		OUTPUT CONDITIONS		ADJUST- ING PARTS	STANDARDS
			MEASURING INSTRUMENTS	CONNEC- TIONS	MEASURING INSTRUMENTS	CONNEC- TIONS		
IF		1000 kHz	AM Sweep generator (450 kHz non modulation)	TP105 (H) TP106 (E)	AM sweep generator	TP206 (H) TP205 (E)	(X205)	NOT ADJUST ONLY CHECK
Tuning Coverage	Low							
	High	1700 kHz	—	—	Digital Voltmeter	TP401 (H) TP102 (E)	—	1.2 ~ 1.3 V
Tracking	Low	600 kHz	AM-SG (75 dB)	Loop ANT.	VTVM Oscilloscope	Tuner out (L or R)	L152	Max.
	High	1400 kHz					CT151	
S.D. (Station Detector)		1000 kHz	AM-SG (85 dB)	Loop ANT.	Digital Voltmeter	TP207 (H) TP205 (E)	SVR202	Less than 4V

ADJUSTMENT OF DECK & TORQUE

Amplifier Adjustment

	Item	Deck	Test Tape	Input	DOLBY SW.	Output	ADJUST POINT	Remarks
1	Head Azimuth	TAPE A TAPE B	VTT738	—	OFF	TAPE OUT	AZIMUTH SCREW	Adjustment to obtain maximum, right and left balanced output.
2	Playback Level	TAPE A	TCC-130 200nW/m	—	OFF	TAPE OUT	SVR502 SVR602	Adjust to obtain 540mV on VTVM.
		TAPE B					SVR501 SVR601	
3	Rec/Play Level	TAPE B	AC-224	1kHz -8 dB	OFF	TAPE OUT	SVR503 SVR603	Adjust to obtain 56mV on VTVM.
4	Rec/Play Frequency	TAPE B	AC-224	1kHz/10kHz -2.8 dB	ON	TAPE OUT	SVR504 SVR604	Adjust to obtain same output of 1kHz and 10kHz.

Note : Input : CD IN terminal

ADJUSTMENT OF DECK & TORQUE

Tape Speed Adjustments

Step	Speed	Deck	Test Tape	SVR	Tape Counter
1	Normal	TAPE A	MTT-111 (3000Hz)	SVR001	3000 + \sim 5Hz
2	High	TAPE A	TCW-211 (1500Hz)	—	3000 + \sim 10%

1. Set the test tape (MTT-111) to "TAPE A" deck.
2. Adjustment to obtain the tape speed counter at Play of step 1.
3. High speed adjustment should be made after normal speed adjustment.
4. Set the TAPE B mechanism is record mode with C-60 Blank cassette tape.
5. Adjustment should be made at the ending portion of the tape.
6. Set the Dubbing speed "HIGH".
7. Set the test tape (TCW-211) to "TAPE A" deck.
8. Confirm the indication of the tape speed counter within 2 second after push the PLAY(TAPE A) and REC.(TAPE B) button.

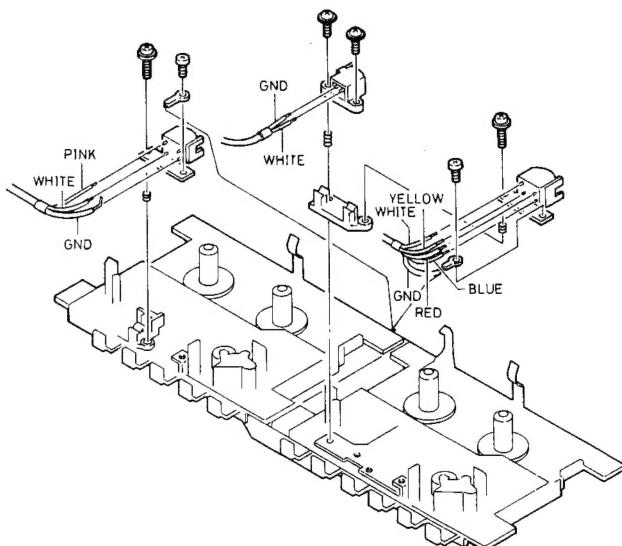
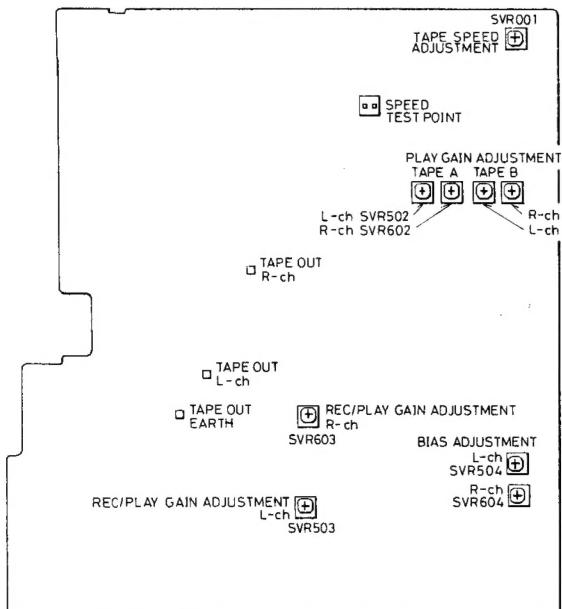
Torque Measurements

Note: Prior to measurement, clean the head, capstan and pinch roller.

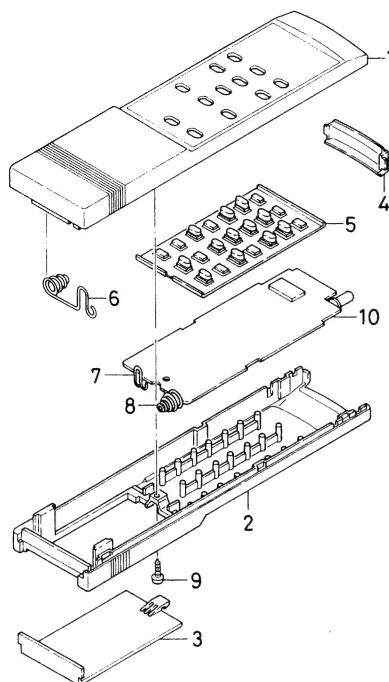
Item	Take-up torque	Back tension	Pulley tension
Test cassette	PLAY: TW-2111 F.FWD/REW: TW-2231	PLAY/F.F: TW-2111 REW: Torque Gauge	Driving power cassette: TW-2412
PLAY	30 ~ 60 gr. cm	2 ~ 4.5 gr. cm	>60g
F. FWD	55 ~ 120 gr. cm	—	
REW	55 ~ 120 gr. cm	—	

PARTS LOCATION (DECK AMP SECTION)

REPLACEMENT OF HEAD

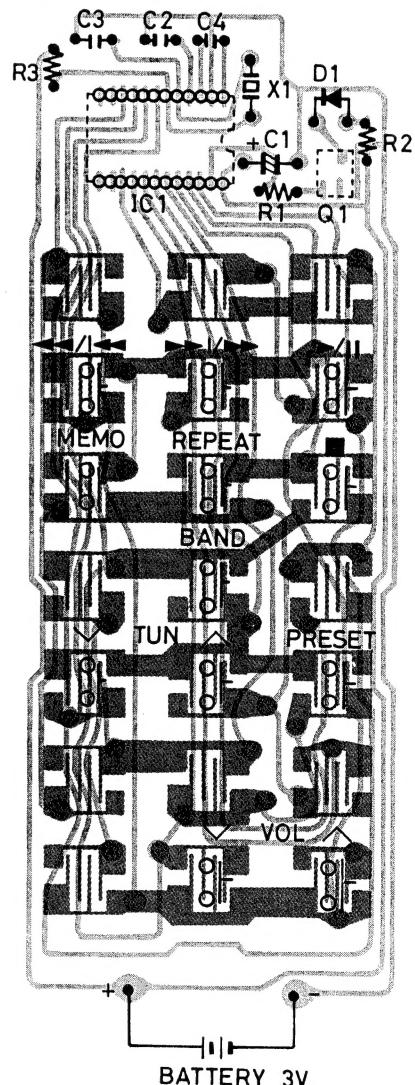
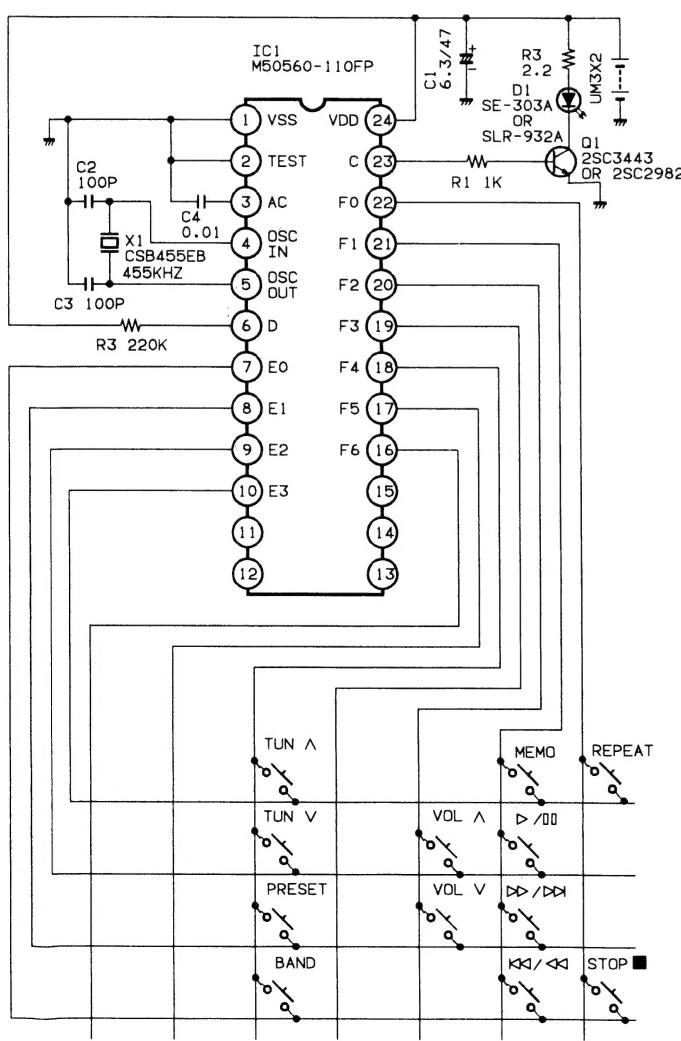


EXPLODED VIEW & PARTS LIST (REMOTE CONTROLLER... RB49)

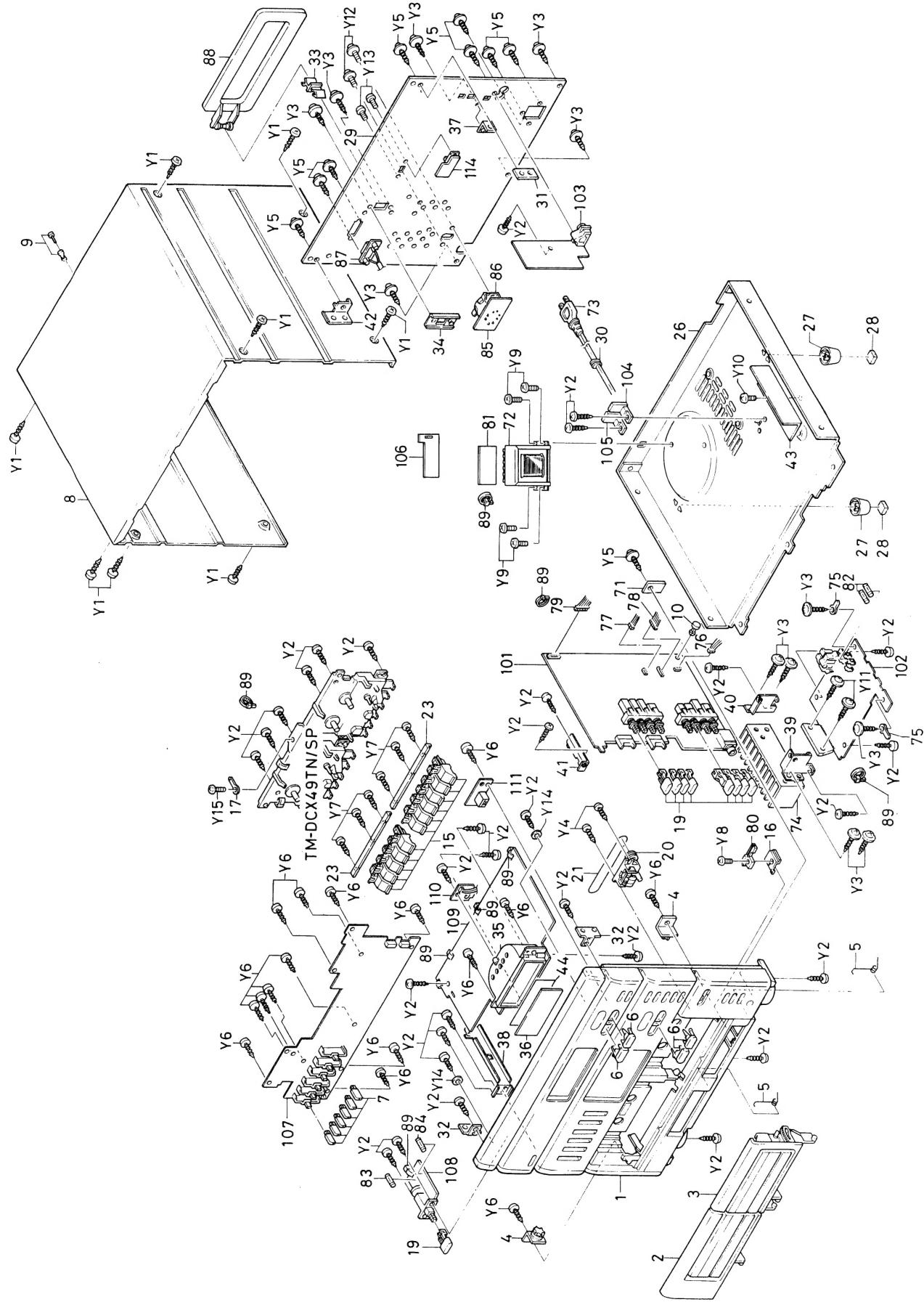


Ref. No.	Part No.	Description
1	614 213 0049	TOP LID ASSY
2	614 203 2602	BOTTOM LID
3	614 203 2619	BATTERY LID
4	614 203 2626	SIGN WINDOW
5	614 213 0100	PUSH BUTTON
6	614 203 2664	TERMINAL
7	614 203 2671	SPRING COIL
8	614 203 2688	SPRING COIL
9	411 100 0102	SCR S-TPG BIN 2X6
10	614 213 0223	P.C BOARD ASSY
X1	614 199 8435	CERAMIC RESONATOR KBR455BTL
IC1	409 121 0201	IC M50560-110FP
Q1	406 006 7300	TR 28C 3443BF
or	406 006 7409	TR 2SC3443BG
or	406 006 7508	TR 2SC2982B
or	406 006 7607	TR 2SC2982C
D1	408 004 0604	LED SE303A
or	408 004 0703	LED SLR-932A
C1	403 107 4306	ELECT 47U M 63V
C2	403 009 5817	CAPACITOR 100P K 50V
C3	403 009 5817	CAPACITOR 100P K 50V
C4	403 010 3007	CAPACITOR 0.01U 50V
R1	401 037 5400	MT-GLAZE 100 JA 1/10W
R2	401 150 5400	MTGLAZE 2.2 ZA 1/8W
R3	401 038 0909	MTGLAZE 220K JA 1/10W

SCHEMATIC & WIRING DIAGRAM (REMOTE CONTROLLER... RB49)



EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION : Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	614 213 9592	INNER CARTON
	614 208 7855	PAD, TOP
	614 207 8198	PAD, BOTTOM
	614 176 3569	INNER POLYE COVER, SET
	614 213 9677	INSTRUCTION MANUAL
	614 036 6358	SOCKET, 3P, FOR CD
	614 016 4541	PLUG ASSY

Ref. No.	Part No.	Description
Y5	411 020 8905	SCR S-TPG BRZ + FLG 3X10
Y6	411 021 3503	SCR S-TPG BIN 3X10
Y7	411 021 3107	SCR S-TPG BIN 2.6X8
Y8	411 002 8503	SCR PAN 3X6
Y9	411 001 4209	SCR S-TPG BIN 4X8
Y10	411 021 5705	SCR S-TPG BIN 3X6
Y11	411 021 4500	SCR S-TPG BIN 3X16
Y12	411 049 0003	SCR PAN + FLG 3X8
Y13	411 039 4103	SCR PAN 2X8
Y14	411 092 3303	WASHER Z 3X12X1

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	614 214 0628	ASSY, PANEL, FRONT
2	614 211 3769	ASSY, LID, CASSETTE, TAPE A
3	614 211 3783	ASSY, LID, CASSETTE, TAPE B
4	614 069 0385	GEAR ASSY
5	614 151 7254	SPRING COIL, LID OPEN
6	614 207 3001	BUTTON
7	614 207 2349	KNOB, SLIDE, GEQ
8	614 207 2899	CABINET
9	614 129 4865	FIXER
10	614 129 4667	FIXER, DECK PCB BUSH
15	614 207 2370	BUTTON, MECHANISM
16	614 120 9050	BRACKET SWITCH, LEAF
17	614 051 9785	LUG, MECHANISM GND.
19	614 207 2356	BUTTON, POWER/FUNCTION ETC
20	614 207 7986	COUNTER
21	614 207 2509	BELT, SQUARE, COUNTER
23	614 194 9239	BRACKET, MECHANISM BUTTON
26	614 215 5370	CABINET, BOTTOM
27	614 207 2387	FOOT
28	614 106 4215	STAND
29	614 213 6362	PANEL, REAR
30	614 129 1710	FIXER
31	614 207 2455	SUPPORT, REAR SIDE DECK
32	614 207 2394	BRACKET-E, CABINET
33	614 108 0307	BRACKET, ANT
34	614 113 9678	BRACKET, ANT
35	614 117 9988	REFLECTOR, LCD
36	614 084 9790	SIGN WINDOW, LCD
37	614 207 3032	BRACKET-E, OUTPUT PCB
38	614 207 3025	BRACKET-E, TUNER PCB
39	614 207 3490	BRACKET-E, HEAT SINK LEFT
40	614 207 3506	BRACKET-E, HEAT SINK RIGHT
41	614 207 3049	BRACKET-E, DECK PCB
42	614 208 7657	SUPPORT, REAR SIDE DECK
43	614 212 1528	SHIELD
44	614 212 1535	SHIELD
45	614 125 6566	CUSHION 10X30X6T

ELECTRICAL PARTS

Ref. No.	Part No.	Description
71	Δ 614 214 2561	PCB
72	Δ 614 214 3476	POWER TRANS
73	Δ 614 023 3469	POWER CORD
74	614 209 4259	HEAT SINK
75	614 051 9785	LUG
76	614 209 3481	SOCKET, ERASE HEAD
77	614 209 3498	SOCKET, PLAY HEAD
78	614 209 3504	SOCKET, REC/PLAY HEAD
79	614 209 3511	SOCKET, MECHA
80	614 018 9315	SWITCH, STOP
81	Δ 614 214 2295	PCB, PT PRIMARY
82	Δ 423 005 3508	FUSE 250V 1.6A (F701,F801)
or	423 017 0106	FUSE 250V 1.6A
83	423 004 1406	FUSE 250V T800MA
or	423 004 1307	FUSE 250V 800MA
or	423 016 9902	FUSE 250V 0.8A (F901)
84	423 003 2404	FUSE 250V T400MA (F902)
or	423 016 9605	FUSE 250V 0.4A
85	Δ 614 214 2301	PCB
86	Δ 614 018 2071	SWITCH, VOLTAGE SELECT
87	614 202 1903	TERMINAL BOARD, FM EXT. ANT.
88	614 036 9007	LOOP ANT ASSY
89	614 129 2496	FIXER
or	614 129 4971	FIXER

DECK P.C.BOARD ASSY

Ref. No.	Part No.	Description
101	614 214 2042	ASSY, PCB, DECK AMP
	614 017 6964	TERMINAL BOARD
	614 211 3592	HEAT SINK
	Δ 614 130 6919	TUBE 20X1D, FOR R931
	614 211 3233	SOCKET, 5P, + B
	614 020 6579	SOCKET, 5P
	614 020 6562	SOCKET, 4P
	614 020 1246	SOCKET, 5P
	614 211 3240	SOCKET, 5P, SP
	614 035 1712	SOCKET, HEADPHONE
	614 208 2331	SOCKET, FRONT-DECK
	614 209 2408	SWITCH, PUSH, FUNCTION
	614 209 2415	SWITCH, PUSH, TAPE SELECT
L501	614 029 3807	MX COIL
L502	614 027 8545	CHOKE

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 021 6603	SCR S-TPG BIN 3X8
Y2	411 021 6405	SCR S-TPG BIN 3X8
Y3	411 020 9902	SCR S-TPG BRZ + FLG 3X8
Y4	411 021 1806	SCR S-TPG BIN 2.6X10

PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
L502	614 210 3685	INDUCTOR, FERITE	Q507	405 017 9709	TR 2SC3330-U
L511	614 210 3722	INDUCTOR, FERITE	or	405 019 3705	TR 2SC536-G-AUD-SPA
L512	614 029 3142	MX COIL	or	405 020 7204	TR 2SC945A-K
L601	614 029 3807	MX COIL	Q508	405 011 8609	TR 2SC1740S-S
L602	614 027 8545	CHOKE	or	405 012 2002	TR 2SC1815-GR
or	614 210 3685	INDUCTOR, FERITE	or	405 017 9709	TR 2SC3330-U
L611	614 210 3722	INDUCTOR, FERITE	or	405 019 3705	TR 2SC536-G-AUD-SPA
L612	614 029 3142	MX COIL	Q510	405 020 7204	TR 2SC945A-K
L931	614 212 0804	TRANS, OSC	or	405 011 8609	TR 2SC1740S-S
SVR1	614 204 1871	SEMI V.R, 2K	or	405 012 2002	TR 2SC1815-GR
SVR501	614 204 1901	SEMI V.R, 10K	or	405 017 9709	TR 2SC3330-U
SVR502	614 204 1901	SEMI V.R, 10K	or	405 019 3705	TR 2SC536-G-AUD-SPA
SVR503	614 204 1901	SEMI V.R, 10K	Q601	405 020 7204	TR 2SC945A-K
SVR504	614 204 1956	SEMI V.R, 100K	or	405 011 8609	TR 2SC1740S-S
SVR601	614 204 1901	SEMI V.R, 10K	or	405 012 2002	TR 2SC1815-GR
SVR602	614 204 1901	SEMI V.R, 10K	or	405 017 9709	TR 2SC3330-U
SVR603	614 204 1901	SEMI V.R, 10K	or	405 019 3705	TR 2SC536-G-AUD-SPA
SVR604	614 204 1956	SEMI V.R, 100K	Q602	405 020 7204	TR 2SC945A-K
CN1	614 017 2096	PLUG, 2P	or	405 011 8609	TR 2SC1740S-S
CN2	614 017 2102	PLUG, 3P	or	405 012 2002	TR 2SC1815-GR
CN3	614 017 2126	PLUG, 5P	or	405 017 9709	TR 2SC3330-U
CN4	614 017 2164	PLUG, 9P	or	405 019 3705	TR 2SC536-G-AUD-SPA
CN5	614 016 4084	PLUG, 2P	Q603	405 020 7204	TR 2SC945A-K
IC1	409 020 9107	IC LC4069UB	or	405 011 8609	TR 2SC1740S-S
or	409 051 3907	IC TC4069UBP	or	405 012 2002	TR 2SC1815-GR
or	409 059 3206	IC UPD4069UBC	or	405 017 9709	TR 2SC3330-U
IC501	409 121 8702	IC LA3246	or	405 019 3705	TR 2SC536-G-AUD-SPA
IC502	409 145 8405	IC UPC1330HA	or	405 020 7204	TR 2SC945A-K
IC521	409 016 8701	IC LA3220	Q604	405 011 8609	TR 2SC1740S-S
IC551	409 119 9803	IC CXA1101P	or	405 012 2002	TR 2SC1815-GR
Q1	405 001 7001	TR 2SA1015-GR	or	405 017 9709	TR 2SC3330-U
or	405 004 4601	TR 2SA608-F-SPA	or	405 019 3705	TR 2SC536-G-AUD-SPA
Q2	405 001 7001	TR 2SA1015-GR	or	405 020 7204	TR 2SC945A-K
or	405 004 4601	TR 2SA608-F-SPA	Q605	405 011 8609	TR 2SC1740S-S
Q3	405 011 8609	TR 2SC1740S-S	or	405 012 2002	TR 2SC1815-GR
or	405 012 2002	TR 2SC1815-GR	or	405 017 9709	TR 2SC3330-U
or	405 017 9709	TR 2SC3330-U	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 019 3705	TR 2SC536-G-AUD-SPA	or	405 020 7204	TR 2SC945A-K
Q4	405 001 7001	TR 2SA1015-GR	Q606	405 011 8609	TR 2SC1740S-S
or	405 004 4601	TR 2SA608-F-SPA	or	405 012 2002	TR 2SC1815-GR
Q501	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U	or	405 020 7204	TR 2SC945A-K
or	405 019 3705	TR 2SC536-G-AUD-SPA	Q607	405 011 8609	TR 2SC1740S-S
or	405 020 7204	TR 2SC945A-K	or	405 012 2002	TR 2SC1815-GR
Q502	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U	or	405 020 7204	TR 2SC945A-K
or	405 019 3705	TR 2SC536-G-AUD-SPA	Q608	405 011 8609	TR 2SC1740S-S
or	405 020 7204	TR 2SC945A-K	or	405 012 2002	TR 2SC1815-GR
Q503	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U	or	405 020 7204	TR 2SC945A-K
or	405 019 3705	TR 2SC536-G-AUD-SPA	Q701	405 011 8609	TR 2SC1740S-S
or	405 020 7204	TR 2SC945A-K	or	405 012 2002	TR 2SC1815-GR
Q504	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U	or	405 020 7204	TR 2SC945A-K
or	405 019 3705	TR 2SC536-G-AUD-SPA	Q702	405 011 8609	TR 2SC1740S-S
or	405 020 7204	TR 2SC945A-K	or	405 012 2002	TR 2SC1815-GR
Q505	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U	or	405 020 7204	TR 2SC945A-K
or	405 019 3705	TR 2SC536-G-AUD-SPA	Q801	405 011 8609	TR 2SC1740S-S
or	405 020 7204	TR 2SC945A-K	or	405 012 2002	TR 2SC1815-GR
Q506	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U	or	405 020 7204	TR 2SC945A-K
or	405 019 3705	TR 2SC536-G-AUD-SPA	Q802	405 011 8609	TR 2SC1740S-S
or	405 020 7204	TR 2SC945A-K	or	405 012 2002	TR 2SC1815-GR
Q507	405 011 8609	TR 2SC1740S-S	or	405 017 9709	TR 2SC3330-U
or	405 012 2002	TR 2SC1815-GR	or	405 019 3705	TR 2SC536-G-AUD-SPA
Q507	405 012 2002	TR 2SC1815-GR	or	405 020 7204	TR 2SC945A-K
or	405 017 9709	TR 2SC3330-U	Q931	405 011 8609	TR 2SC1740S-S
or	405 019 3705	TR 2SC536-G-AUD-SPA	or	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K	or	405 017 9709	TR 2SC3330-U
or	405 011 8609	TR 2SC1740S-S	or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 012 2002	TR 2SC1815-GR	or	405 020 7204	TR 2SC945A-K
Q507	405 012 2002	TR 2SC1815-GR	Q931	405 018 0200	TR 2SC3331-U

PARTS LIST

Ref. No.	Part No.	Description
Q932	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 020 7204	TR 2SC945A-K
Q933	405 012 2002	TR 2SC1815-GR
or	405 018 0200	TR 2SC3331-U
or	405 020 7204	TR 2SC945A-K
D1	407 007 9904	DIODE GMA01
D2	407 007 9904	DIODE GMA01
D3	407 007 9904	DIODE GMA01
D4	407 007 9904	DIODE GMA01
D5	407 007 9904	DIODE GMA01
D6	407 005 4505	DIODE DS442X
D7	407 005 4505	DIODE DS442X
D8	407 005 4505	DIODE DS442X
D9	407 005 4505	DIODE DS442X
D10	407 007 9904	DIODE GMA01
D11	407 007 9904	DIODE GMA01
D12	407 007 9904	DIODE GMA01
D13	407 007 9904	DIODE GMA01
D14	407 007 9904	DIODE GMA01
D15	407 007 9904	DIODE GMA01
D16	407 007 9904	DIODE GMA01
D501	407 007 9904	DIODE GMA01
D502	407 007 9904	DIODE GMA01
D601	407 007 9904	DIODE GMA01
D602	407 007 9904	DIODE GMA01
C935	403 081 1209	POLYPRO 0.018U J 100V
R757	△ 401 018 2503	CARBON 330 JB 1/4W FLAME PROOF
R857	△ 401 018 2503	CARBON 330 JB 1/4W FLAME PROOF
R931	△ 401 023 0709	CARBON 82 JA 1/4W

MAIN P.C.BOARD ASSY

Ref. No.	Part No.	Description
102	614 214 2059	ASSY, PCB, MAIN
	614 208 4557	TERMINAL
	614 208 4540	FUSE HOLDER
or	614 123 0023	BRACKET FUSE
	614 017 2126	PLUG, 5P, SP, + B
	614 017 2102	PLUG, 3P, AMP IN
	614 020 6555	SOCKET, 3P
	614 020 1246	SOCKET, 5P
IC953	△ 409 101 8302	IC STK4112MK2
Q951	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 020 7204	TR 2SC945A-K
D953	△ 407 004 9105	DIODE DSF10C
D954	△ 407 004 9105	DIODE DSF10C
D955	△ 407 004 9105	DIODE DSF10C
D956	△ 407 004 9105	DIODE DSF10C
D957	407 004 9105	DIODE DSF10C
D958	407 004 9105	DIODE DSF10C
D959	407 004 9105	DIODE DSF10C
D960	407 004 9105	DIODE DSF10C
D961	407 007 9904	DIODE GMA01
D962	407 007 9904	DIODE GMA01
C756	403 062 1105	POLYESTER 0.047U M 50V
C856	403 062 1105	POLYESTER 0.047U M 50V
R755	△ 401 008 7204	CARBON 2.2K JB 1/2W FLAME PROOF
R756	△ 401 010 5601	CARBON 5.6 JB 1/2W FLAME PROOF
R855	△ 401 008 7204	CARBON 2.2K JB 1/2W FLAME PROOF

INPUT P.C.BOARD ASSY

Ref. No.	Part No.	Description
103	614 214 2066	ASSY, PCB, INPUT
	614 016 8228	PLUG, 3P, CD
	614 016 8341	PLUG, 2P, TP
	614 035 2702	SOCKET, CD RCA
	614 020 6562	SOCKET, 4P
	614 019 8553	SOCKET, PHONO
	614 020 1253	SOCKET, 6P

REGULATOR 1 P.C.BOARD ASSY

Ref. No.	Part No.	Description
104	614 214 2073	ASSY, PCB, REGULATOR 1
	614 020 6555	SOCKET, 3P
IC951	△ 409 078 2402	IC L7812ML
or	△ 409 122 6202	IC NJM7812FA
or	△ 409 168 2107	IC UPC7812HF
or	△ 409 001 7603	IC AN7812F

REGULATOR 2 P.C.BOARD ASSY

Ref. No.	Part No.	Description
105	614 214 2080	ASSY, PCB, REGULATOR 2
	614 020 6555	SOCKET, 3P
IC952	△ 409 078 2402	IC L7812ML
or	△ 409 122 6202	IC NJM7812FA
or	△ 409 168 2107	IC UPC7812HF
or	△ 409 001 7603	IC AN7812F

PT. SECOND P.C.BOARD ASSY

Ref. No.	Part No.	Description
106	614 214 2097 614 020 1246	ASSY, PCB, PT. SECOND SOCKET, 5P
C950	403 057 3800	POLYESTER 0.1U M 50V
C951	403 057 3800	POLYESTER 0.1U M 50V
C952	403 057 3800	POLYESTER 0.1U M 50V
R950	▲ 402 039 3609	RESISTOR 0.47 J- 1/2W

GRAPHIC EQUALIZER VOLUME P.C.BOARD ASSY

Ref. No.	Part No.	Description
107	614 214 1816	ASSY, PCB, GEQ. VR
	614 208 2249	PLUG, FRONT-DECK
	614 211 2991	SOCKET, 2P, TO AMP IN
	614 020 1222	SOCKET, 3P
	614 003 4363	V.R, GEQ
	614 003 5766	V.R, BALANCE
	614 024 2393	SWITCH, VR UP/DOWN
L951	614 028 3907	FILTER
L952	614 028 3907	FILTER
S401	614 024 2393	SWITCH, DOWN
S402	614 024 2393	SWITCH, UP
S403	614 024 2393	SWITCH, BAND
S404	614 024 2393	SWITCH, A/M
S405	614 024 2393	SWITCH, CH 1
S406	614 024 2393	SWITCH, CH 2

PARTS LIST -

Ref. No.	Part No.	Description
S407	614 024 2393	SWITCH, CH 3
S408	614 024 2393	SWITCH, CH 4
S409	614 024 2393	SWITCH, CH 5
S410	614 024 2393	SWITCH, CH 6
IC954	409 053 0409	IC TC9153AP
Q703	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 020 7204	TR 2SC945A-K
Q704	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 020 7204	TR 2SC945A-K
Q803	405 011 8609	TR 2SC1740S-S
or	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 020 7204	TR 2SC945A-K
Q804	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 020 7204	TR 2SC945A-K
Q950	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 020 7204	TR 2SC945A-K
Q955	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 020 7204	TR 2SC945A-K
Q956	405 012 2002	TR 2SC1815-GR
or	405 017 9709	TR 2SC3330-U
or	405 020 7204	TR 2SC945A-K
D963	407 007 9904	DIODE GMA01
D964	407 007 9904	DIODE GMA01
D965	408 008 9108	LED SLR-56VC70F130-N
D966	408 008 9108	LED SLR-56VC70F130-N
D967	408 008 9108	LED SLR-56VC70F130-N
D968	408 008 9108	LED SLR-56VC70F130-N
D969	408 008 9108	LED SLR-56VC70F130-N

POWER SWITCH P.C.BOARD ASSY

Ref. No.	Part No.	Description
108	614 214 1823	ASSY, PCB, POWER SW
	△ 614 017 6964	TERMINAL BOARD
	△ 614 208 4540	FUSE HOLDER
or	△ 614 123 0023	BRACKET FUSE
	△ 614 018 8967	SWITCH, POWER
C999	△ 404 000 2000	CERAMIC 0.01U Z 250V

TUNER P.C.BOARD ASSY

Ref. No.	Part No.	Description
109 or	614 214 0567	ASSY, PCB, TUNER
	614 116 5349	SHIELD PLATE, PARTS SIDE
	614 117 1029	SHIELD PLATE, PATTERN SIDE
	614 030 4787	CERAMIC FILTER (X204)
	614 208 9644	FILTER (X205)
	614 210 4668	FILTER
	614 207 9348	LCD
CT101	614 007 3683	TRIMMER, 8P
CT151	614 007 6356	TRIMMER, 11P
T201	614 030 3476	I.F.T, FM
T202	614 030 4114	I.F.T, FM
L101	614 034 9870	VHF COIL
L102	614 034 9887	VHF COIL
L103	614 028 4058	FILTER
L104	614 035 0036	VHF COIL
L151	614 033 8904	O.S.C COIL, MW
L152	614 032 7878	ANT COIL, MW
X201	614 030 5128	I.F FILTER

PARTS LIST

Ref. No.	Part No.	Description
D409 or	407 013 1701	DIODE 1S1588
D410 or	407 013 7109	DIODE 1S2473
D411 or	407 013 1701	DIODE 1S1588
D412 or	407 013 7109	DIODE 1S2473
D413 or	407 013 1701	DIODE 1S1588
D414 or	407 013 7101	DIODE 1S2473
C152	403 082 2007	POLYPRO 510P J 100V
C306	403 080 5000	POLYPRO 1000P J 100V
C407	403 106 1603	NP-ELECT 1U Q 50V
C410 or	404 034 8405	CAPACITOR 0.047F Z 5.5V
R380	404 037 4107	CAPACITOR 0.047F - 5.5V
	△ 401 018 1209	CARBON 33 JB 1/4W FLAME PROOF

LCD LAMP P.C.BOARD ASSY

Ref. No.	Part No.	Description
110	614 207 4787	ASSY, PCB, LCD LAMP
CN402	614 020 6548	SOCKET, 2P
PL401	614 045 9647	LAMP 12V 100MA

IR P.C.BOARD ASSY

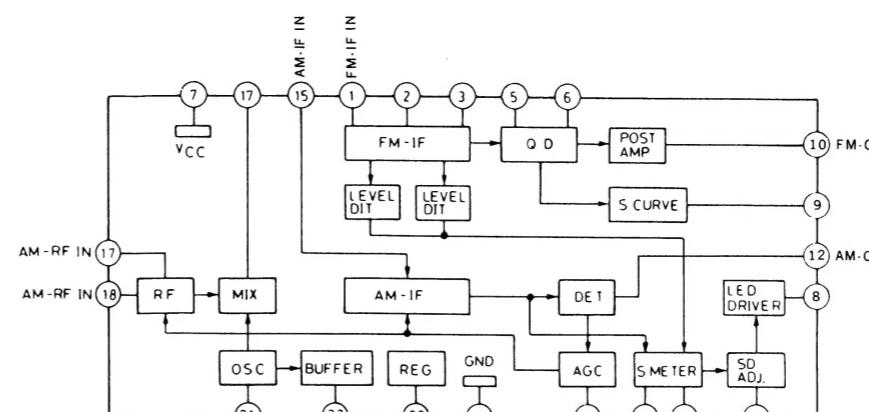
Ref. No.	Part No.	Description
111	614 207 4794	ASSY, PCB, IR
S411	614 203 7928	SPECIAL SWITCH
CN404	614 020 6555	SOCKET, 3P

9K/10K STEP SWITCH P.C.BOARD ASSY

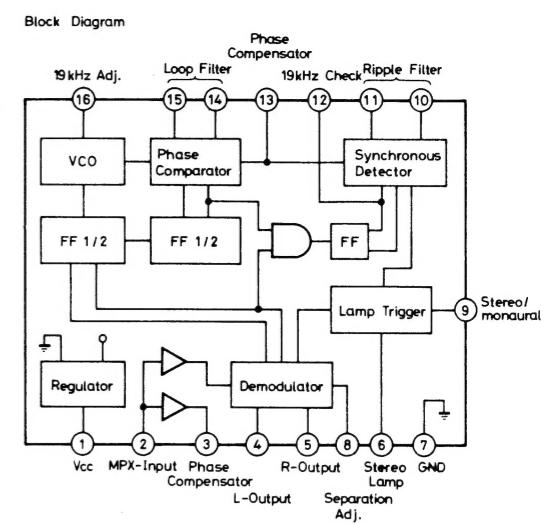
Ref. No.	Part No.	Description
112	614 207 4817	ASSY, PCB, 9K/10K STEP SW
S412	614 011 4591	SLIDE SWITCH
CN408	614 020 6555	SOCKET, 3P

IC BLOCK DIAGRAM (1/3)

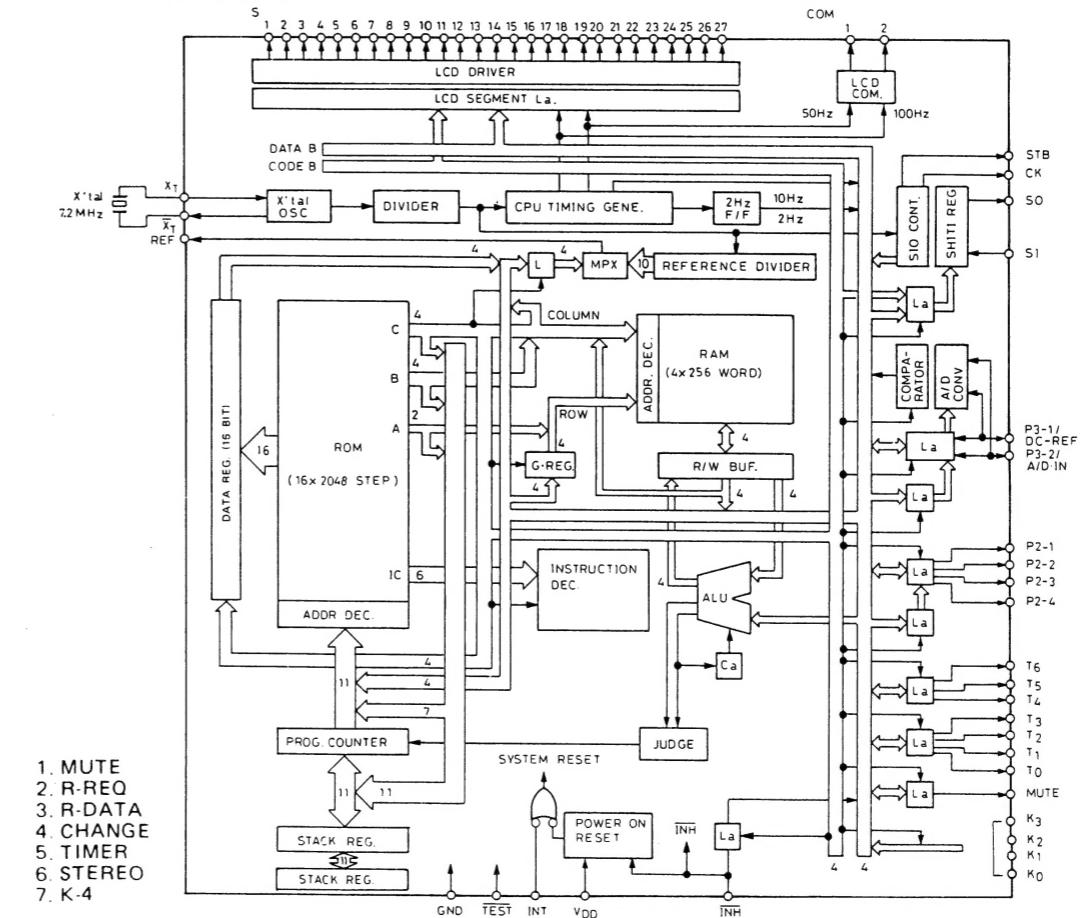
IC201 LA1265 (Tuner System)



IC301 LA3361 (PLL FM MPX. Stereo Demodulator)



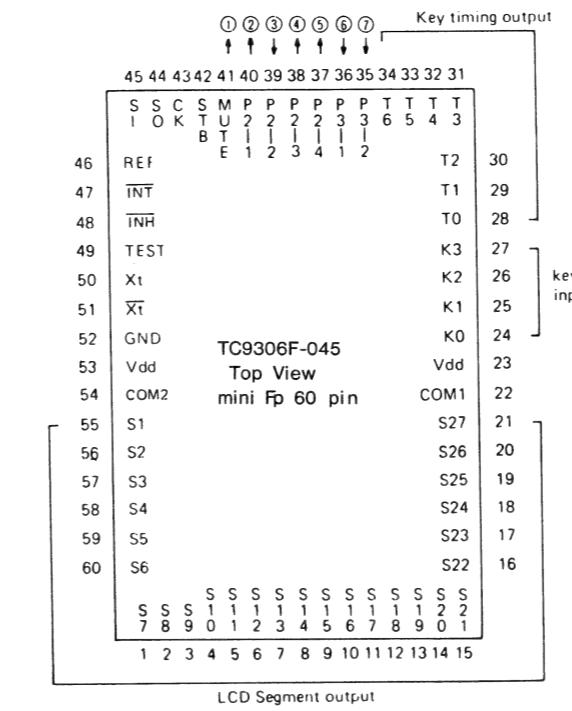
IC401 TC9306F-045-BS



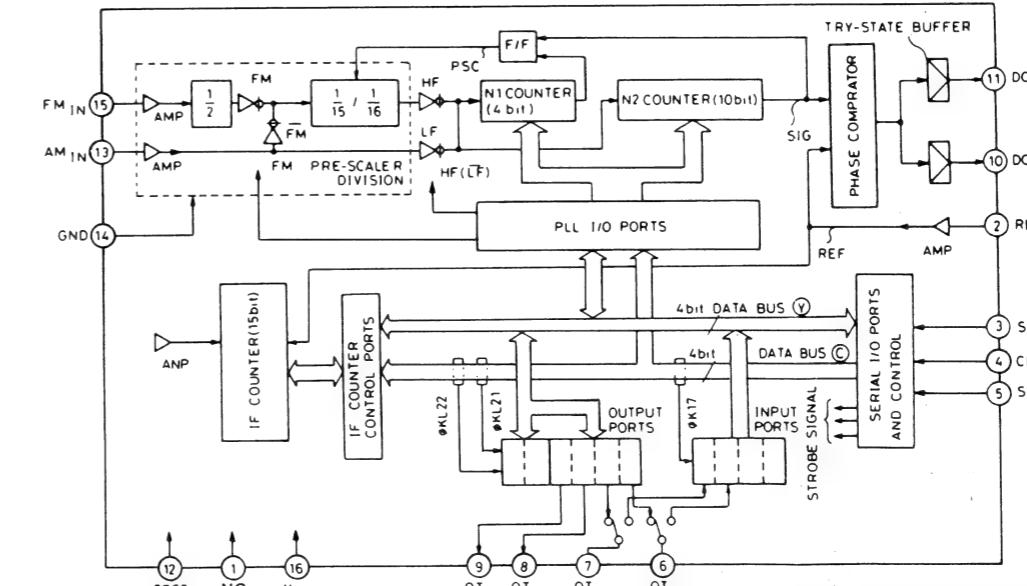
1. MUTE
2. R-REQ
3. R-DATA
4. CHANGE
5. TIMER
6. STEREO
7. K-4

IC BLOCK DIAGRAM (2/3)

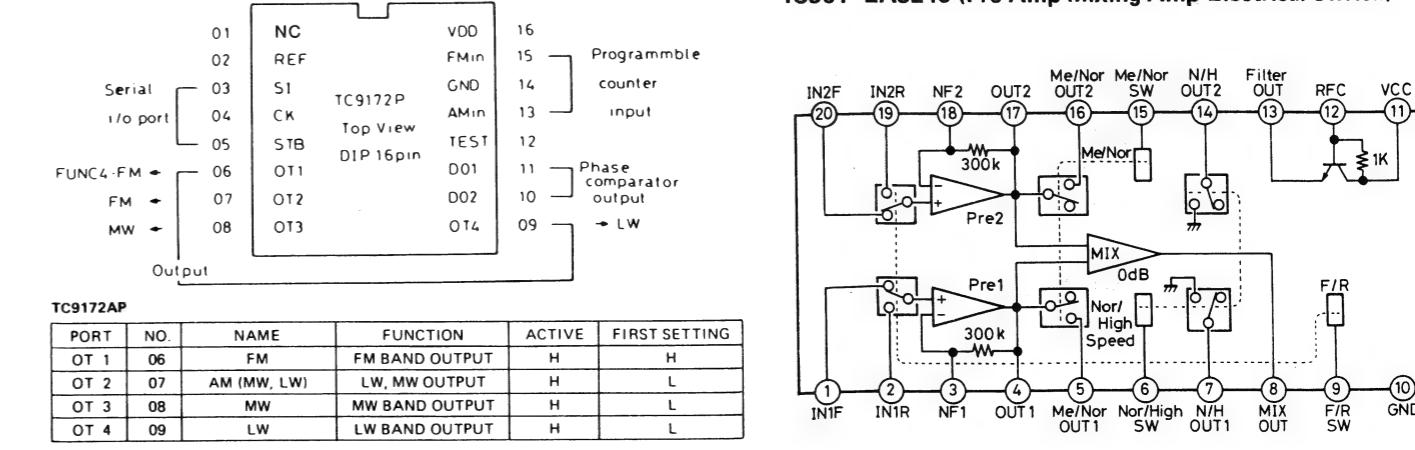
Explanation of terminal functions					
Description of function and operation			Remarks		
Pin No.	Symbol	Terminal name			
22	COM1	LCD common output	Terminal to output common signal output to LCD		
54	COM2		It is possible to indicate max. 54 segments by using the matrix S1-S27. At this terminal, three levels of V _{DD} , 1/2 V _{DD} and GND are outputted with intervals of 5 ms at a frequency of 50 Hz.		
			Note: During system resetting or when CKSTP command is executed, output is automatically set to "L" level.		
55~60 1~21	S1~S6 S7~S7	LCD segment output	Terminal to output segment signal output to LCD.		
			It is possible to indicate max. 54 segments by using the matrix COM1 and COM2. Data is outputted to these terminals by SEG command (COM1 system) and MARK command (COM2 system). For segment decoding, the decode pattern is made in the ROM area, and it is executed by using the DAL command.		
			Note: During system resetting or when CKSTP command is executed, output is automatically set to "L" level.		
24~27	K0~K3	Key input port	4 bit input port for key matrix input.		
			When KEY command which assigns this port at the operand part is executed, data of these terminals are read in to RAM.		
			All the terminals incorporate pull-down resistor.		
			The output ports of To T ₆ are normally used for key return timing signal output.		
28~34	To T ₆	Key timing output port	4 bit (T ₆ -T ₃) or 3-bit (T ₄ -T ₆) output port.		
			These ports are normally used for key return timing signal output of key matrix.		
35	P3.2 /A/D IN	I/O port 3 A/D (analog voltage input reference voltage input /DC. REF)	2-bit I/O port		
			At this port it is possible to assign input and output per bit. For this assignment, the content of internal port called PORT.3 I/O CONTROL is used.		
36	P3.1	/A/D IN	This terminal is also used for analog input of incorporated 4-bit A/D converter. The switching to A/D converter input is controlled according to the content of PORT.3 I/O CONTROL port.		
			The incorporated A/D converter adopts the programmed successive comparison system in which P3.1 is for reference voltage input, and P3.2 is for analog comparison voltage input.		
37~40	P2.4~P2.1	I/O port 2	4-bit I/O port.		
			At this port it is possible to assign input and output per bit. For this assignment, the content of internal port called PORT.2 I/O CONTROL port is used.		
41	MUTE	Muting signal output port	1-bit output port. This port is normally used for muting control signal output.		
			Note: When the INH input is changed from "H" to "L" or "L" to "H", the output is automatically set to "H" level.		
42	STB	Strobe pulse output	Serial interface		
43	CK	Serial clock output	By executing the SIO command, the externally mounted PLL LSI or an optional IC of peripheral part can be controlled. The serial transferring mode, NCD or NCO, can be selected as programmed.		
44	SO	Serial data output			
45	SI	Serial data input			



IC401 TC9172AP (HIGH-SPEED PLL WITH PRE-SCALER)



IC501 LA3246 (Pre-Amp Mixing-Amp Electrical Switch)



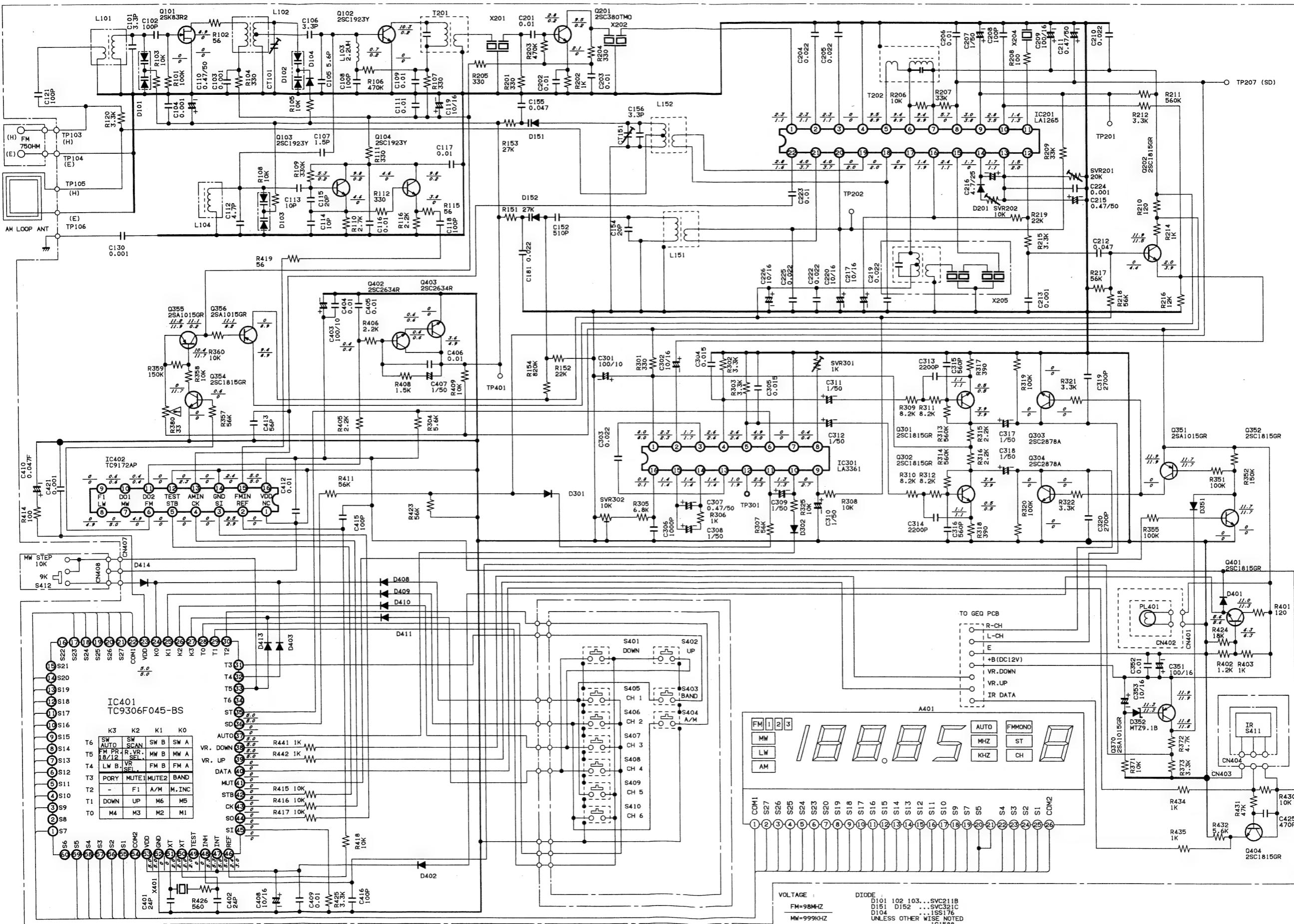
SYSTEM SUMMARY (TC9306F-045)

Combined with PLL LIS TC 9172AP, high efficiency digital tuning system with FM/MW 2-band can be made.

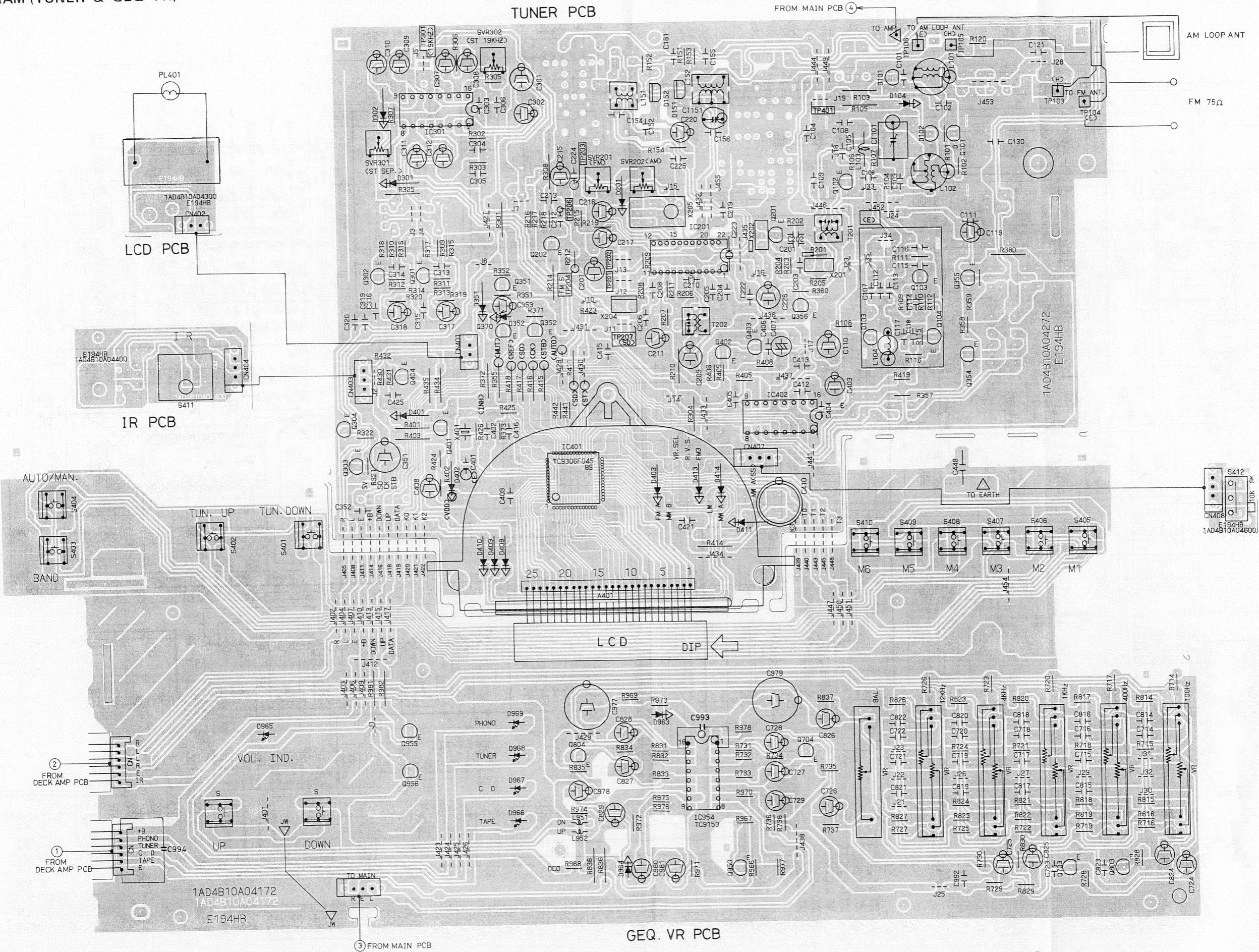
BAND					
BAND	CODE A B	FREQUENCY (Hz)	STEP (Hz)	Fref (Hz)	IF (Hz)
FM	0 0	87.9 ~ 107.9 M	200K	25K	+10.7M
	1 0	87.50 ~ 108.00 M	50K		10.7M
	0 1	76.0 ~ 90.0 M	100K		+10.7M
	1 1	87.4 ~ 108.1 M	50K		+10.7M
MW	0 0	530 ~ 1700 K	10K	10K	+450K
	1 0	531 ~ 1602 K	9K	9K	+459K
	0 1	522 ~ 1611 K			+450K
	1 1	522 ~ 1629 K			+450K
LW	1	144 ~ 290 K	AUTO MANU 9K/1K	1K	+459K
SW1	1 -	13.2 ~ 7.3 M	5K	5K	+450K
SW2	- 1	29.5 ~ 21.75 M			+450K

TC9306F-045					
PORT	No.	NAME	FUNCTION	ACTIVE	FIRST SETTING
MUTE	41	MUTE	MUTE OUTPUT	H	H
P2-1	40	REM-DATA	REMOTE INPUT	H	-
P2-2	39	VR UP	VR UP OUTPUT	H	L
P2-3	38	VR DOWN	VR DOWN OUTPUT	H	L
P2-4	37	AUTO/MANUAL	AUTO OUTPUT	H	L
P3-1	36	TUNED/SD	TUNED & SD INPUT	L	-
P3-2	35	STEREO	STEREO INPUT	L	-

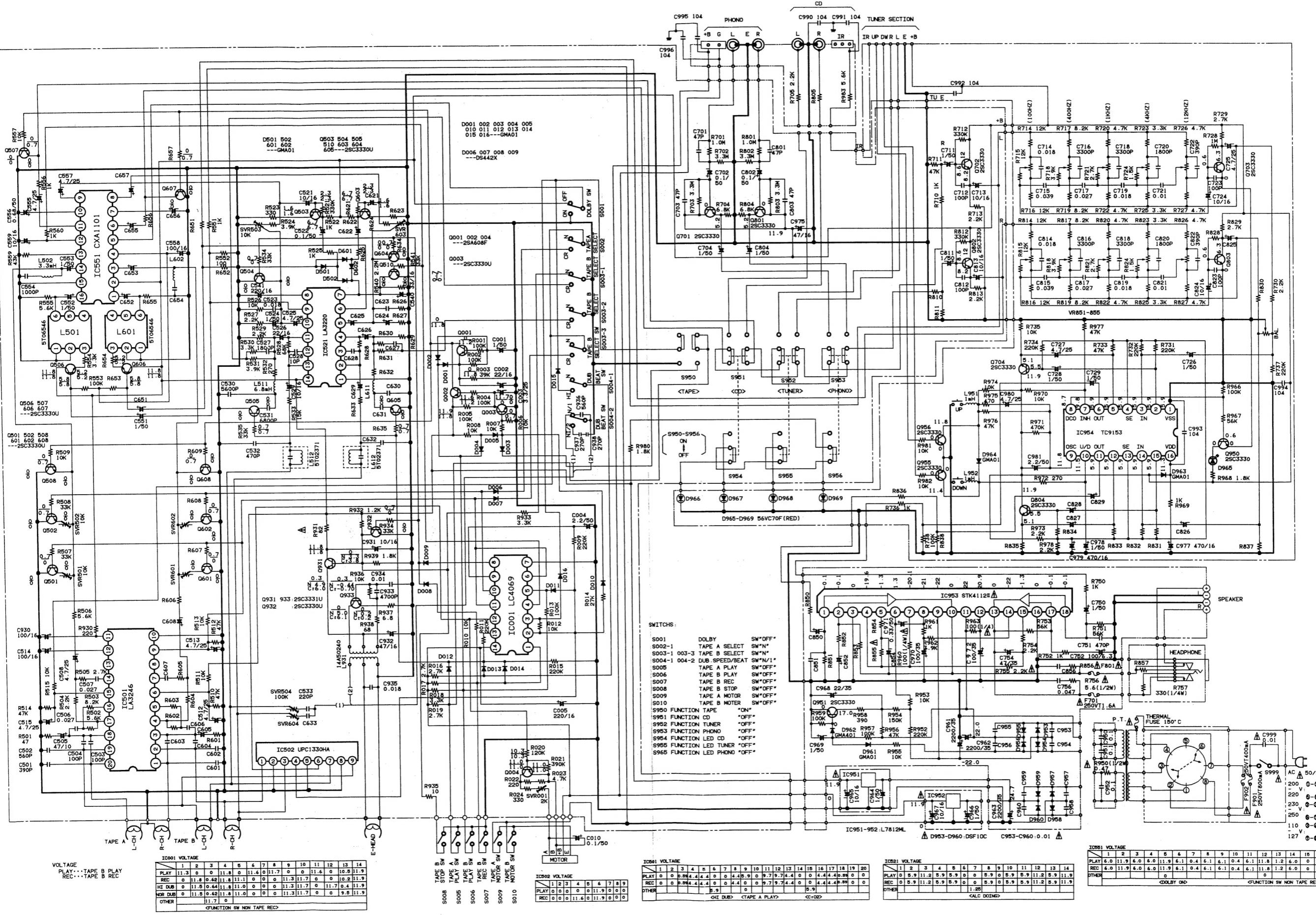
SCHEMATIC DIAGRAM (TUNER)



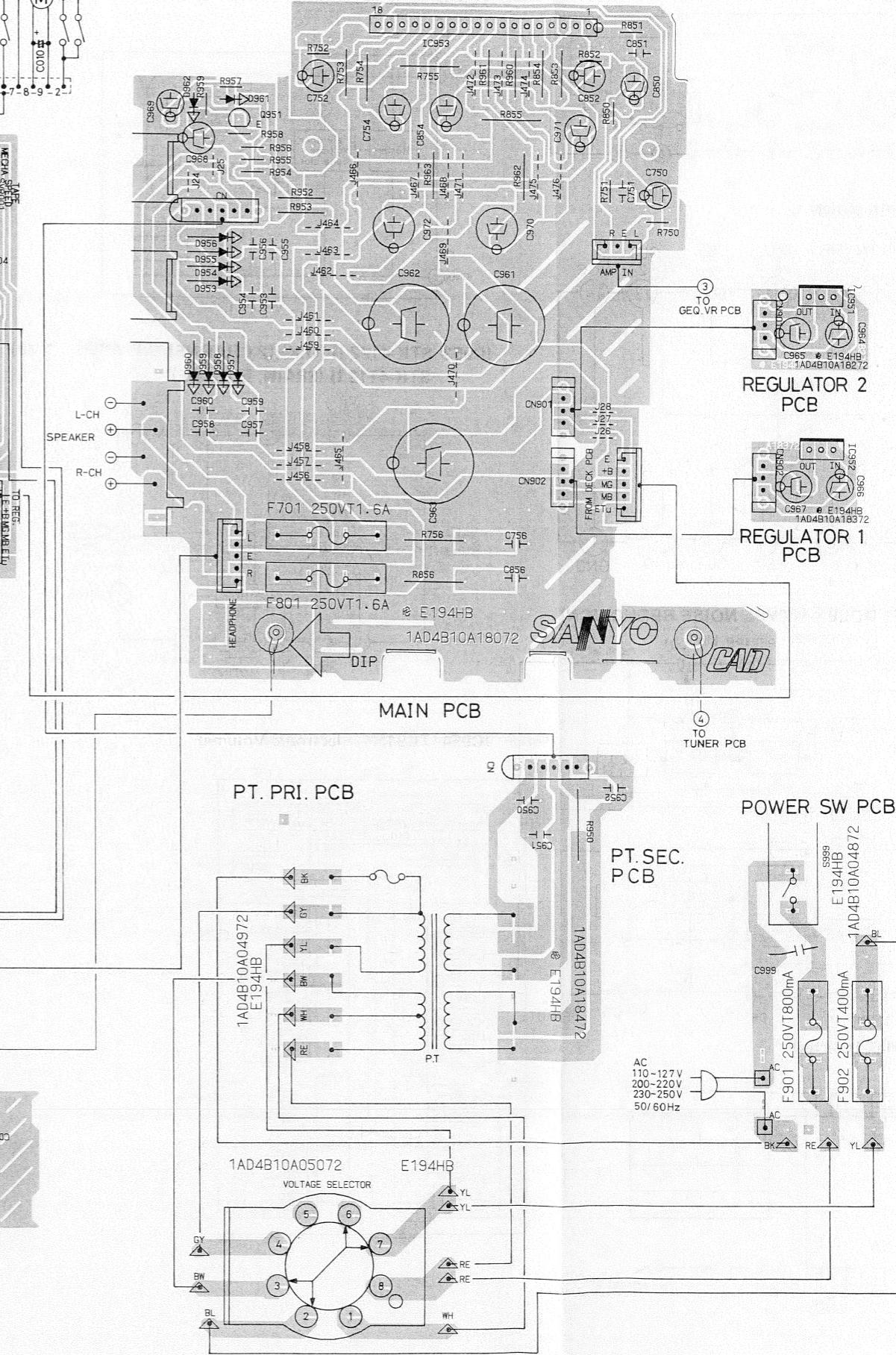
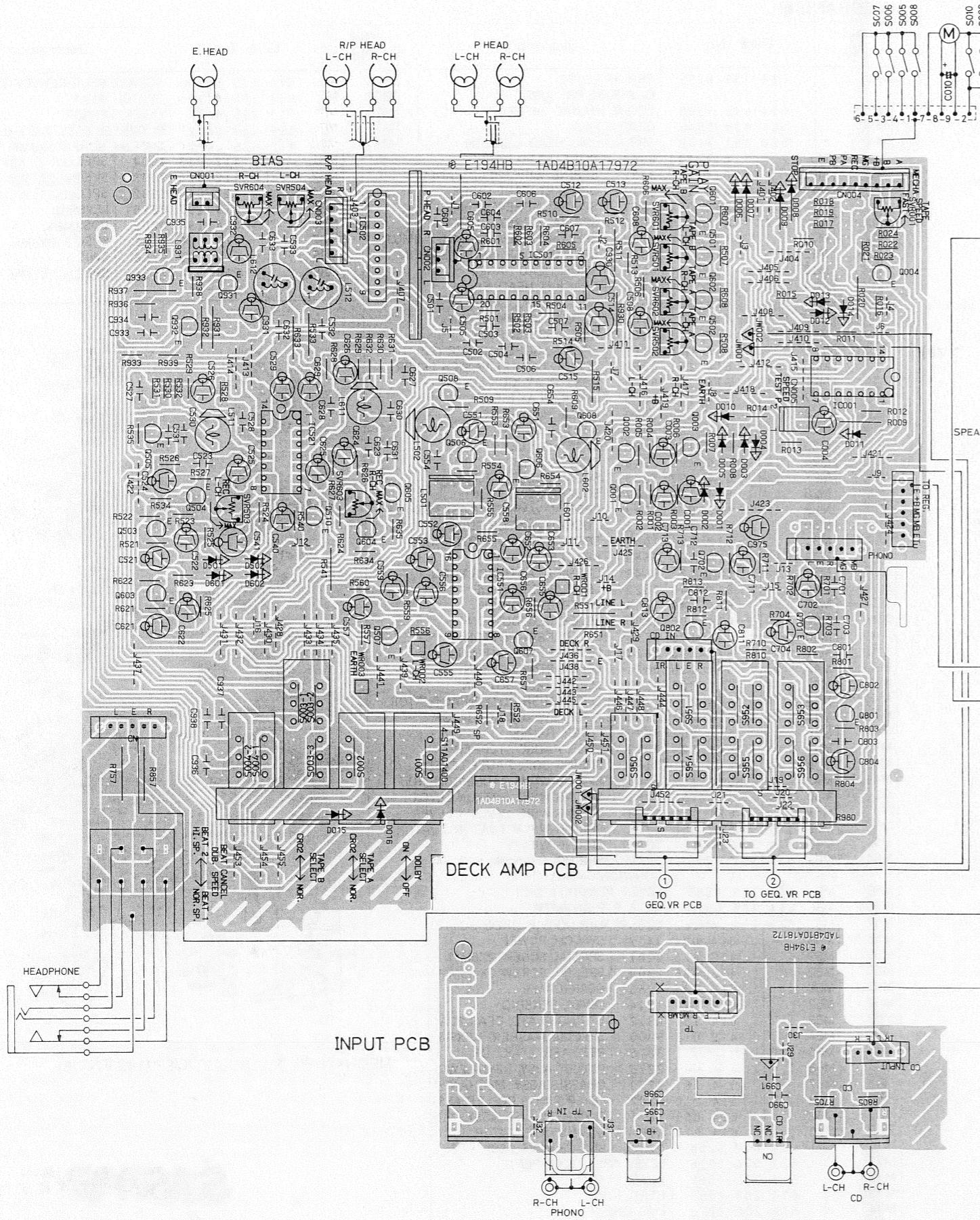
WIRING DIAGRAM (TUNER & GEQ VR) —



SCHEMATIC DIAGRAM (DECK & AMP) —

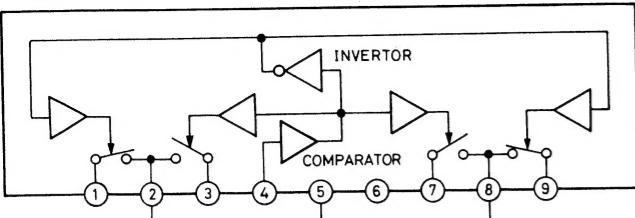


WIRING DIAGRAM (DECK & AMP)-

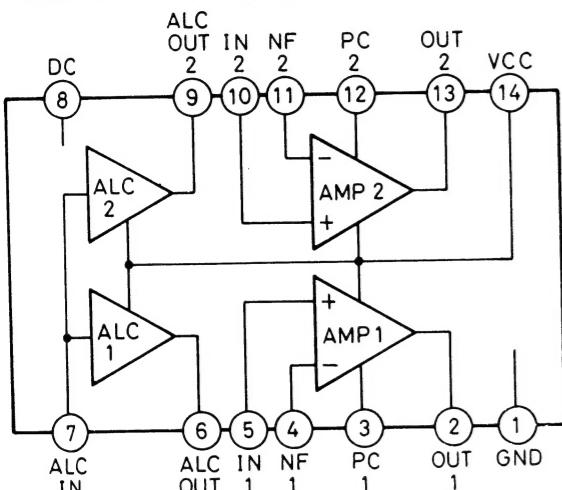


IC BLOCK DIAGRAM (3/3)

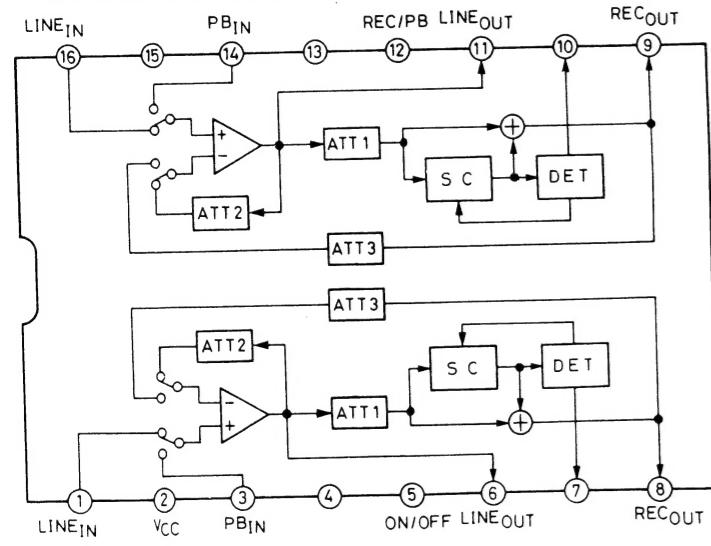
IC502 μPC1330HA (Cassette Deck 2 Channel Head Select Switch IC)



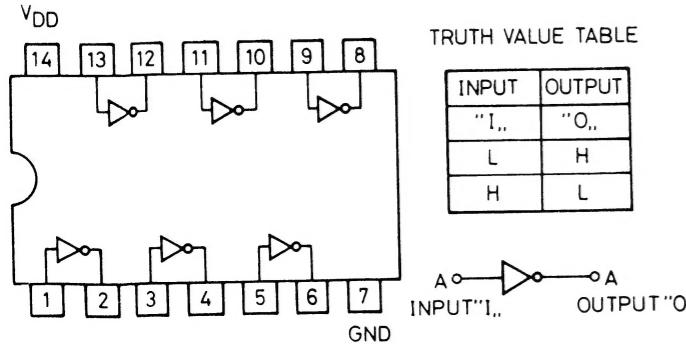
IC521 LA3220 (Dual Pre-Amplifier)



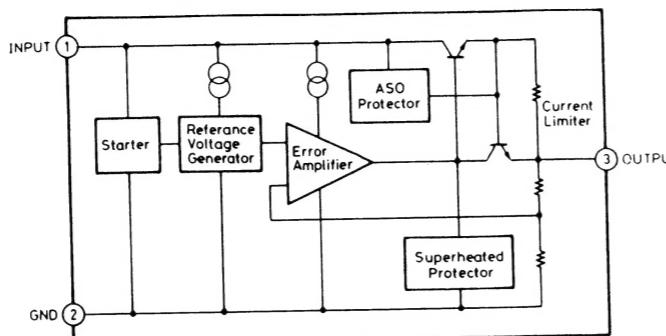
IC551 CXA1101P (DOLBY B-TYPE NOISE REDUCTION)



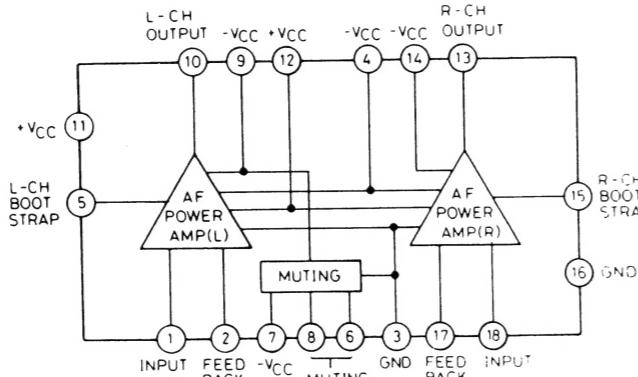
IC001 LC4069 (Hex Inverter)



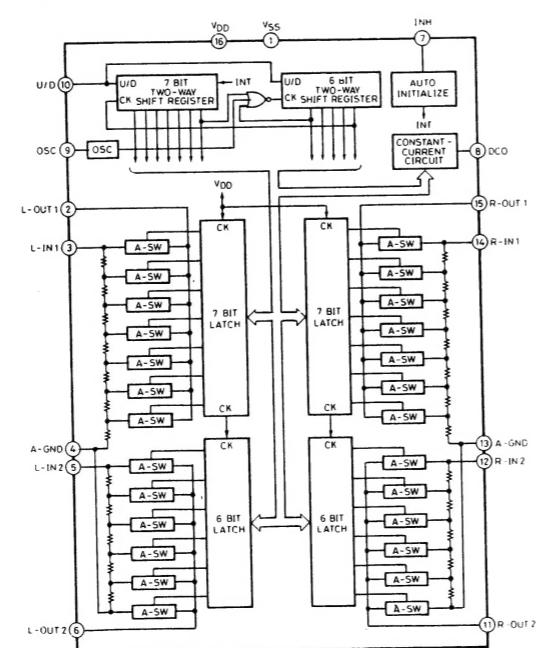
IC951, IC952 LA7812ML (12V 3-Terminal Constant Voltage Regulated Power Supply)



**IC953 STK-4122 II (U.K.) (2 CHANNEL AF POWER AMP)
STK-4112 II (SPAIN, EUROPE)**



IC954 TC9153 (Electronic Volume)

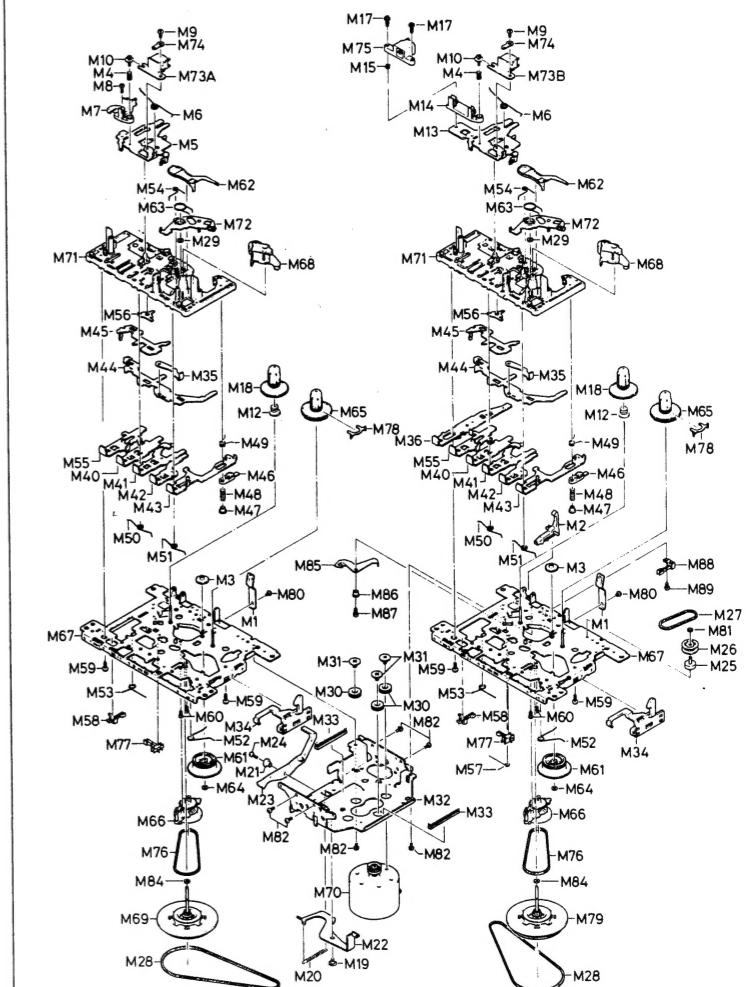


PARTS LIST & EXPLODED VIEW (MECHANISM)

MECHANISM

Ref. No.	Part No.	Description
M1	614 151 8299	SPRING PLATE, CASSETTE PRESSURE LEVER, RECORD SAFETY
M2	614 140 1508	GEAR, F.FWD
M3	614 134 9046	SPRING COIL, HEAD AZIMUTH SLIDE, HEAD PANEL
M4	614 151 7162	SPRING WIRE, HEAD PANEL
M5	614 211 6944	BRACKET, TAPE GUIDE
M6	614 210 3432	SPECIAL SCREW 2X6MM
M7	614 146 5111	SPECIAL SCREW 2X3MM
M8	412 031 7901	SPECIAL SCREW 2X7MM, AZIMUTH SPRING, COMP, BACK TENSION
M9	412 031 6607	SLIDE, HEAD PANEL
M10	412 026 1709	BRACKET HEAD, ERASE SPRING COIL, ERASE HEAD
M12	614 208 0351	SPECIAL SCREW 2X8MM
M13	614 210 6822	REEL ASSY, SUPPLY
M14	614 196 0470	SPECIAL SCREW, LEVER (22)
M15	614 151 5090	SPRING COIL, PLAY KICK LEVER
M17	412 027 4600	LEVER, PLAY KICK A
M18	614 211 3868	LEVER, PLAY KICK B
M19	412 005 8101	SPECIAL SCREW
M20	614 151 4758	SHAFT, PULLEY
M21	614 129 0683	PULLEY, BELT
M22	614 139 8679	SQUARE BELT, PULLEY
M23	614 140 1676	SQUARE BELT, MAIN
M24	412 031 7901	SPECIAL WASHER, 1.45X3.8X0.5T
M25	614 197 7898	CUSHION, MOTOR RUBBER
M26	614 197 7720	SPECIAL SCREW, MOTOR MTG.
M27	614 197 7638	BRACKET MOTOR
M28	614 133 4127	CUSHION, ANTI VIBRATION
M29	412 026 1808	LEVER, EJECT SLIDE
M30	614 126 6831	LEVER, EJECT KICK
M31	412 026 1907	LEVER, REC. BUTTON
M32	614 122 9553	LEVER, REW. BUTTON
M33	614 126 6848	LEVER, F.FWD BUTTON
M34	614 140 1522	LEVER, STOP BUTTON
M35	614 140 1539	LEVER, PAUS BUTTON
M36	614 196 0500	SLIDE, PUSH BUTTON ACTUATOR
M40	614 196 0517	LEVER, PAUSE
M41	614 196 0524	BOSS, PAUSE STOPPER
M42	614 196 0531	SPRING COIL, PAUSE LEVER
M43	614 208 0313	SPRING WIRE, PAUSE CONTROL
M44	614 201 1737	SPRING WIRE, BUTTON LEVER
M45	614 201 1744	SPRING WIRE, EJECT ACTUATOR
M46	614 208 0320	SPRING WIRE, P.S LEVER
M47	614 129 0669	SPRING WIRE, MECHANISM CONTROL
M48	614 151 7186	LEVER, PLAY BUTTON
M49	614 152 1244	BOSS, R/P STOPPER
M50	614 152 1251	SPRING WIRE, REC. BUTTON
M51	614 152 1268	SWITCH, POWER
M52	614 152 1275	SPECIAL SCREW 2X5MM
M53	614 152 1282	GEAR, CAM
M54	614 152 1299	LEVER, SENSING
M55	614 196 0555	SPRING PLATE, GEAR PLATE
M56	614 129 0676	SPECIAL WASHER, 1.2X3.8X0.3T
M57	614 152 1305	REEL ASSY, TAKE UP
M58	614 024 3437	PULLEY ASSY, REW/F.FWD CLUTCH
M59	412 026 2201	CHASSIS ASSY, MECHANISM
M60	412 026 2300	LEVER PINCH ROLLER ASSY
M61	614 134 9053	FLYWHEEL DISK ASSY, TAPE A
M62	614 140 1614	COMMUTATE MOTOR ASSY
M63	614 151 8312	SUB CHASSIS ASSY, BASE
M64	412 013 5000	LEVER ASSY, GEAR PLATE
M65	614 211 3875	HEAD, PLAY
M66	614 069 2273	HEAD, R/P
M67	614 067 2770	LUG, GND
M68	614 210 3302	MAGNETIC HEAD, ERASE
M69	614 068 1871	
M70	614 211 3752	
M71	614 067 3258	
M72	614 070 0916	
M73A	614 208 4069	
M73B	614 208 4052	
M74	614 208 0276	
M75	614 021 8831	

Ref. No.	Part No.	Description
M76	614 195 5087	SQUARE BELT, REW/F.FWD
M77	614 195 4424	SWITCH, PLAY
M78	614 195 5094	LEVER, SENSOR
M79	614 204 8672	FLYWHEEL ASSY, TAPE B
M80	412 026 1402	SPECIAL SCREW 2X3MM
M81	412 013 4904	SPECIAL WASHER 1.2X3X0.25T
M82	412 026 2003	SPECIAL SCREW 2X4MM
M84	412 013 8902	SPECIAL WASHER 2X3.5X0.3T
M85	614 197 0219	LEVER, SW (M88)
M86	614 197 0202	BOSS, LEVER (M85)
M87	412 026 2102	SPECIAL SCREW 2X3MM
M88	614 196 9756	SWITCH, REC.
M89	614 124 4594	SPECIAL SCREW 2X5MM



MECHANISM TM-DCX49TN/SP (149-474-16)

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